Remarks

This is in response to the Office Action dated July 21, 2009. In view of the above amendments and the following remarks, reconsideration of the rejection and further examination are requested.

Claims 5 and 6 have been cancelled and incorporated into claims 1 and 19. Method limitations similar to the limitations recited in claims 5 and 6 have been added to claims 18 and 20.

Rejection under 35 U.S.C §102(b):

Claims 1, 5-9, 12-13, and 16-21 have been rejected under 35 U.S.C §102(b) as being anticipated by Maeshima (US Pub. 2002/0032025). This rejection is respectfully traversed and submitted to be inapplicable to the above claims for the following reasons.

Claim 1 recites a terminal including, in part, an issuance portion configured to periodically issue a substitute frame, created by using the control information contained in the control frame most recently detected and including the same information as the control information, when the control frame is not newly detected before a predetermined first time period elapses after the control frame has been most recently detected by the detection portion, and a control station mode portion configured to cause the terminal to operate as the control station, unless the detection portion newly detects a control frame issued by the control station before a predetermined second time period elapses after the substitute frame has been started to be issued, wherein the issuance portion stops issuing the substitute frame when the detection portion newly detects the control frame before the predetermined second time period elapses after the substitute frame has been started to be issued.

Due to the above features of claim 1, when the control station is disconnected from the network for a short period of time (shorter than the predetermined second time period), communication quality is maintained without transferring control to a terminal. This is because the terminal creates and issues a substitute frame (after the predetermined first time period) using the control information from the last received control frame. However, the terminal is not acting as a control station yet. It is simply issuing a substitute frame with the same information as the control frame in order to maintain the integrity of the communication system. Therefore, the state

of the communication system, before the control station was disconnected, is temporarily maintained by using the information stored from the last received control frame. The control station is then able to restart operation as soon as it is connected to the network without waiting for control to be transferred back to the control station. This prevents frequent changing of control stations, and avoids excess load on the terminals and network, due to the transmission of information necessary for a terminal to begin operation as a control station. The above features are especially important when the control station quickly recovers from a disconnection because it is not always satisfactory to replace a control station with a new one. Only when the control station is unable to recover and resume issuing control frames does the terminal operate as the control station. The terminal will then issue substitute frames until the control station recovers. When the control station recovers, the terminal will stop issuing control frames. Maeshima fails to disclose or suggest the above features as recited in claim 1.

Maeshima discloses that when the descending management information cannot be received for some time continuously (see paragraph 78), the slave control stations 103,105,107 transmit the management information during the period in which the descending control information is normally transmitted by the controls station and control transmission of data by the respective terminals when the central control station is not able to perform this function due to an inconvenience (i.e., disconnection) in the master control station 100 (see paragraphs 47 and 48). According to Maeshima, the time period from when the master control station 100 experiences the inconvenience and the period when the slave control stations 103,105,107 begin transmitting the descending control information corresponds to "the predetermined second time period" of claim 1 (i.e., the time period until the terminal acts as the control station). Because of this, there is a time period in Maeshima from when the control station is disconnected to when a slave station becomes the control station where media access control is not enabled. This causes deterioration in communication quality because the control information is not being transmitted. Furthermore, the constant switching of control stations anticipated by the system in Maeshima puts an excess load on the terminals in the network because of the information transferred between terminals that is necessary for a slave terminal to act as a control terminal.

Thus, Maeshima discloses a terminal capable of becoming a control station. When the control station is disconnected, the slave control terminals are transferred control, according to priority. During this time, communication quality deteriorates. Once a slave control terminal

begins transmitting the management information again, communication quality is restored. However, Maeshima does not disclose that the terminal uses the previous control frame and is able to immediately issue a substitute frame when no control frame is issued, without waiting for control to be transferred, thus preventing any deterioration of communication, and only after a predetermined time period will the terminal begin operating as a control station. Therefore, Maeshima does not disclose or suggest an issuance portion configured to periodically issue a substitute frame, created by using the control information contained in the control frame most recently detected and including the same information as the control information, when the control frame is not newly detected before a predetermined first time period elapses after the control frame has been most recently detected by the detection portion, and a control station mode portion configured to cause the terminal to operate as the control station, unless the detection portion newly detects a control frame issued by the control station before a predetermined second time period elapses after the substitute frame has been started to be issued, wherein the issuance portion stops issuing the substitute frame when the detection portion newly detects the control frame before the predetermined second time period elapses after the substitute frame has been started to be issued, as recited in claim 1. As a result, claim 1 is not anticipated by Maeshima.

Claim 19 is not anticipated by Maeshima for the same reasons as those discussed above with regard to independent claim 1. Specifically, claim 19 recites an issuance portion configured to periodically issue a substitute frame, created by using the control information contained in the control frame most recently detected and including the same information as the control information, when the control frame is not newly detected before a predetermined first time period elapses after the control frame has been most recently detected by the detection portion, and a control station mode portion configured to cause the terminal to operate as the control station, unless the detection portion newly detects a control frame issued by the control station before a predetermined second time period elapses after the substitute frame has been started to be issued, wherein the issuance portion stops issuing the substitute frame when the detection portion newly detects the control frame before the predetermined second time period elapses after the substitute frame has been started to be issued. The above features, as recited in claim 19, are not disclosed in Maeshima. As a result, claim 19 is patentable over Maeshima.

Claims 18 and 20 are not anticipated by Maeshima for reasons similar to those discussed

above with regard to independent claim 1. Specifically, claims 18 and 20 recite periodically issuing a substitute frame created by using the control information contained in the control frame most recently detected and including the same information as the control information, when the control frame is not newly detected before a predetermined first time period elapses after the control frame has been most recently detected by the detection portion, and causing the terminal to operate as the control station, unless the control frame issued by the control station is newly detected before a predetermined second time period elapses after the substitute frame has been started to be issued, wherein the periodic issuing of the substitute frame stops when the control frame is newly detected before the predetermined second time period elapses after the substitute frame has been started to be issued. The above features, as recited in claims 18 and 20 are not disclosed in Maeshima. As a result, claims 18 and 20 are patentable over Maeshima.

Claims 7-9, 12-13, 16-17, and 21 are either directly or indirectly dependent on independent claim 1. Therefore, claims 1, 7-9, 12-13, and 16-21 are allowable over Maeshima.

Rejections under 35 U.S.C §103(a):

Claim 3 has been rejected under 35 U.S.C §103(a) as being unpatentable over Maeshima (US Pub. 2002/0032025) in view of Kita (US pub. 2003/0054821). This rejection is respectfully traversed and submitted to be inapplicable to the above claims for the following reasons.

Claim 3 is dependent on independent claim 1 discussed above.

Kita is relied upon in the rejection as disclosing that a response frame is issued indicating that a request from a slave terminal is rejected. However, it is apparent that Kita fails to disclose or suggest the features lacking from Maeshima discussed above with regard to independent claim 1. Accordingly, no obvious combination of Maeshima and Kita would result in, or otherwise render obvious under 35 U.S.C. §103(a), the features recited in claims 1 and 3. Therefore, claim 3 is patentable over the combination of Maeshima and Kita, at least based on its dependency from claim 1.

Claim 4 has been rejected under 35 U.S.C §103(a) as being unpatentable over Maeshima (US Pub. 2002/0032025) in view of Spartz (US Pub. 2004/0002338). This rejection is respectfully traversed and submitted to be inapplicable to the above claims for the following reasons.

Claim 4 is dependent on independent claim 1 discussed above.

Spartz is relied upon in the rejection as disclosing that a base station may ignore the request of a mobile station for establishing a communication link. However, it is apparent that Spartz fails to disclose or suggest the features lacking from Maeshima discussed above with regard to independent claim 1. Accordingly, no obvious combination of Maeshima and Spartz would result in, or otherwise render obvious under 35 U.S.C. §103(a), the features recited in claims 1 and 4. Therefore, claim 4 is patentable over the combination of Maeshima and Spartz, at least based on its dependency from claim 1.

Claims 10-11 and 14-15 have been rejected under 35 U.S.C §103(a) as being unpatentable over Maeshima (US Pub. 2002/0032025) in view of Isumi (US 5,815,816). This rejection is respectfully traversed and submitted to be inapplicable to the above claims for the following reasons.

Claims 10-11 and 14-15 are ultimately dependent on independent claim 1 discussed above.

Isumi is relied upon in the rejection as disclosing a competition with another terminal to acquire access to a communication medium. However, it is apparent that Isumi fails to disclose or suggest the features lacking from Maeshima discussed above with regard to independent claim 1. Accordingly, no obvious combination of Maeshima and Isumi would result in, or otherwise render obvious under 35 U.S.C. §103(a), the features recited in claims 1, 10-11, and 14-15. Therefore, claims 10-11 and 14-15 are patentable over the combination of Maeshima and Isumi, at least based on their dependency from claim 1.

Because of the above-mentioned distinctions, it is believed clear that claims 1, 3-4, and 7-21 are allowable over the references relied upon in the rejections. Furthermore, it is submitted that the distinctions are such that a person having ordinary skill in the art at the time of the invention would not have been motivated to make any combination of the references of record in such a manner as to result in, or otherwise render obvious, the present invention as recited in 1, 3-4, and 7-21. Therefore, it is submitted that claims 1, 3-4, and 7-21 are clearly allowable over the prior art of record.

In view of the above amendments and remarks, it is submitted that the present application is now in condition for allowance. The Examiner is invited to contact the undersigned by telephone if it is felt that there are issues remaining which must be resolved before allowance of the application.

Respectfully submitted,

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